

**ABSTRACT**

An easy and efficient failure recovery method in a mesh network is provided. A ring network consisting of a working system and a stand-by system is dynamically configured in response to a request for setting a path in a network in which nodes are interconnected by a plurality of optical fibers. If a failure occurs in the working system, nodes perform signaling for failure recovery to switch traffic to the stand-by system to recover from the failure. When the ring is configured, a ring map containing ring link information, information about ports at each node of channels constituting the ring, and node numbers locally assigned to the ring is provided to each of the nodes constituting the ring. A plurality of rings shares stand-by channel with each other.

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